IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventors: Cech et al.

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Docket: 015389-002921US; 018/180c

Title: A METHOD FOR IDENTIFYING NUCLEOTIDE SEQUENCES ENCODING TELOMERASE PROTEIN

Art Unit: 1634

Examiner: Carla J. Myers, Ph.D.

AMENDMENT AND RESPONSE TO OFFICE ACTION
UNDER 37 CFR § 1.111

Commissioner for Patents and Trademarks
Washington, D.C. 20231

Dear Sir,

This paper is responsive to the most recent Office Action on the merits, dated August 26, 2002 (Paper No. 13), for which a response is due November 26, 2002. Accompanying this response is a petition for a one-month extension of time, along with authorization to charge the deposit account for the requisite fee. Accordingly, this paper is timely filed.

Applicants have given careful consideration to the analysis in the Office Action. Please enter the following amendments and remarks.

AMENDMENTS

Please delete the *title* of the application as filed, and replace it with the following:

METHOD FOR IDENTIFYING NUCLEOTIDE SEQUENCES ENCODING TELOMERASE PROTEIN

Please amend the *specification* as follows:

Page 14 lines 22-23:

Figure 1 (A) and (B) is a schematic diagram of the affinity purification of telomerase showing the binding step (Panel A) and the displacement elution step (Panel B).

Page 15 lines 3-4:

Figure 7 (A) and (B) show the putative alignments of telomerase RNA template with SEQ. ID NOs:43 and 44 in Panel A, and SEQ. ID NOs:45 and 46 in Panel B.

Page 17 line 2:

Figure 33 (A) is an overall summary of the *tez1** sequencing experiments. Figure 33 (B) is a "close-up" schematic of the same region of DNA.

Page 17 lines 10-11:

Figure 38 (A) and (B) shows the libraries (Panel A), the region used (Panel B), and the results of screening libraries for *S. pombe* telomerase sequence (Panels C and D).

Page 17 line 17:

Figure 42 (A) and (B) shows the alignment of three telomerase sequences. In Panel A, the shaded areas indicate residues shared between two sequences. In Panel B, the shaded areas indicate residues shared amongst all three sequences.

Please amend *claim 8* as follows:

8. *(Amended)* A method for detecting the presence of polynucleotide sequences encoding at least a portion of telomerase in a biological sample, comprising the steps of:

 a) providing a biological sample suspected of containing a polynucleotide encoding at least a portion of telomerase;

 b) determining a nucleotide sequence contained in the polynucleotide;

 c) comparing the sequence determined in step b) with telomerase motifs 0, 1, 2, and 3; and then

 d) deciding that the sample contains a polynucleotide sequence encoding at least a portion of telomerase if the sequence determined in step b) contains motifs 0, 1, 2, and 3.

Cancel claims 9-12 without prejudice.

Please add new claims 21-24:

21. *(New)* The method of claim 8, wherein the telomerase is a telomerase of a single-celled eukaryotic cell.

22. *(New)* The method of claim 8, wherein the telomerase is a mammalian telomerase.

23. *(New)* The method of claim 8, wherein the telomerase is a human telomerase.

24. *(New)* The method of claim 8, wherein the telomerase contains SEQ. ID NO:100.

REMARKS

This paper is responsive to the Office Action dated August 26, 2002 (Paper No. 13), which is the first action on the merits of the application.

Claims 8-14 and 18-20 were previously pending in the application; claims 8-12 were under examination. Upon entry of this Amendment, claims 9-12 are canceled, and 21-24 are added. The added claims fall within the group under examination. Accordingly, claims 8 and 21-24 are now pending in the application and under examination.

Further consideration and allowance of the application is respectfully requested.

Claim amendments:

Entry of the claim amendments does not introduce new matter into the disclosure. Support for the new claims may be found by the claim s as previously presented, and at various places in the specification, such as page 32, line 22 ff., Example 16 (page 89 ff), page 17 (page 94 ff), Figure 25, and Figure 41.

These amendments are made to obtain coverage for certain aspects of the invention that are of current commercial interest. Applicants reserve the right to introduce claims to subject matter previously claimed or described in the disclosure in this or any other application.

Objection to the disclosure:

The section giving a brief description of the drawings is objected to as not describing each of the embodiments of the figures.

Reference to drawings having more than one panel have now been amended to refer to the panels individually. The additional features referred to are taken directly from the drawing descriptions in the respective Example section, and do not constitute new matter.

Rejections under 35 USC § 112 ¶ 2:

The claims under examination stand rejected under 112 ¶ 2 as being indefinite in several respects. Without agreeing with the points made in the Office Action, applicant has amended claim 8 in a manner that replaces the wording objected to. Withdrawal of this rejection is requested.

Rejections under 35 USC § 103:

The claims under examination stand rejected under § 103(a) as being obvious over certain sequences found on GenBank, in view of a reference by Schena et al. (Proc. Natl. Acad. Sci. USA 93:10614, 1996).

Applicants respectfully disagree. The sequences are not indicated on GenBank as encoding a portion of telomerase, which is explicitly required by the claim as previously presented and as amended. The Schena reference does not provide an algorithm by which to deduce that the cited sequences encode a portion of telomerase, nor is there any suggestion in the reference that the techniques described in the reference should be used with these GenBank sequences. Withdrawal of this rejection is requested.
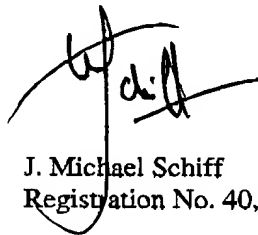
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Conclusion

Applicants respectfully request that all outstanding rejections be reconsidered and withdrawn. The application is believed to be in condition for allowance, and an early Notice of Allowance is requested.

In the event that the Examiner determines that there are other matters to be addressed, applicants hereby request an interview by telephone.

Should the Patent Office determine that an extension of time or any other relief is required for further consideration of this application, applicants hereby petition for such relief, and authorizes the Assistant Commissioner to charge the cost of such petitions and other fees due in connection with the filing of these papers to Deposit Account No. 07-1139, referencing the Geron number indicated above.

Respectfully submitted,

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